Notice of Allowability	Application No.	Applicant(s)	
	10/664,772	MASEL ET AL.	
	Examiner	Art Unit	
	Dah-Wei D. Yuan	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *RCE filed March 14, 2007*.

2. ☒ The allowed claim(s) is/are *17-19,21-23,51-57 and 64-69*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 04102007
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

ORGANIC FUEL CELLS AND FUEL CELL CONDUCTING SHEETS

Examiner: Yuan S.N. 10/664,772 Art Unit: 1745 April 26, 2007

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 14, 2007 has been entered. Claim 17 was amended. Claims 58-63 were canceled. Claims 64-69 were added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on April 27, 2006.

Claim Rejections - 35 USC § 103

3. The claim rejections under 35 U.S.C. 103(a) as unpatentable over Davis and Beckmann et al. on claims 17,21,51-57 are withdrawn, because the independent claim 17 has been amended. The claim rejections under 35 U.S.C. 103(a) as unpatentable over Davis and Beckmann et al. as applied to claims 17,21,51-57, and further in view of Ha et al. on claims 18,19 are withdrawn, because they are overcome by the Attribution Declaration filed March 14, 2007. The claim rejections under 35 U.S.C. 103(a) as unpatentable over Davis, Beckmann et al. and Hirsch et al. on claim 22 are withdrawn, because the independent claim 17 has been amended. The claim

rejections under 35 U.S.C. 103(a) as unpatentable over Davis, Beckmann et al. and Vecere on claim 23 are withdrawn, because the independent claim 17 has been amended.

Allowable Subject Matter

4. Claims 17-19,21-23,51-57,64-69 are allowed. The following is a statement of reasons for the indication of allowable subject matter: The invention of independent claim 17 recites a passive direct organic fuel cell comprising an anode, an anode enclosure communicating with the anode and contain an organic fuel solution that is at least 1.8 M formic acid, said anode enclosure having a gas remover comprising a plurality of passages that are configured to allow passage of CO_2 from said enclosure, said anode enclosure being configured to substantially prevent passage of said fuel solution therefrom during operation of the fuel cell whereby said fuel cell operates as a passive fuel cell, wherein said anode said cathode and said electrolyte are operative to generate power having a power density of at least 10 mW/cm^2 when operating at room temperature. The closest prior art of record, Davis and Beckmann, does not teach or suggest a passive direct organic fuel cell wherein anode enclosure is configured to substantially prevent passage of the fuel solution therefrom during operation of the fuel cell whereby the fuel cell operates as a passive fuel cell as stated in the claim. The invention of independent claim 68 recites a passive direct organic fuel cell comprising an anode, a sealed anode enclosure communicating with the anode and contain an organic fuel solution that is at least 4.4 M formic acid, said anode enclosure having a gas remover comprising a plurality of passages that are configured to allow passage of CO_2 from said enclosure, said organic fuel solution contained in

said sealed anode enclosure being free from circulation by pump, wherein said anode, said cathode, and said electrolyte are operative to generate power having a power density of at least 14 mW/cm^2 when operating at room temperature. The closest prior art of record, Davis and Beckmann, does not teach or suggest a passive direct organic fuel cell containing an organic fuel solution that is at least 4.4 M formic acid and the fuel cell can generate a power density of at least 14 mW/cm^2 when operating at room temperature as stated in the claim. The invention of independent claim 69 recites a passive direct organic fuel cell comprising an anode, an anode enclosure communicating with the anode and contain an organic fuel solution that is at least 8.8 M formic acid, said anode enclosure having a gas remover comprising a plurality of passages that are configured to allow passage of CO_2 from said enclosure, said organic fuel solution contained in said sealed anode enclosure being free from circulation by pump, wherein said anode, said cathode, and said electrolyte are operative to generate power having a power density of at least 10 mW/cm^2 at a constant voltage of 0.26 V when operating at room temperature for a period of at least 3 hours with no more than about 0.6 cc of said fuel solution. The closest prior art of record, Davis and Beckmann, does not teach or suggest a passive direct organic fuel cell containing an organic fuel solution that is at least 4.4 M formic acid and the fuel cell can generate a power density of at least 14 mW/cm^2 at a constant voltage of 0.26 V when operating at room temperature for a period of at least 3 hours with no more than about 0.6 cc of said fuel solution as stated in the claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
April 26, 2007